

Efstathia Scoulica

Assistant Professor of Molecular Microbiology
School of Medicine, University of Crete

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Undergraduate Studies: 1974-1979 School of Biology, University of Athens

Postgraduate studies: 1980-1984 Cellular and Molecular Biology at the University of Aix-Marseille II

1980-1981 Diplome d' Etudes Approfondies (Master of Science)

1981-1984 Doctorat de 3^e cycle (Ph.D)

Positions: 1984-1988: Post doctoral fellow of EMBO-EMBL, Heidelberg

1989-1991: Post doctoral fellow of IMBB-F.O.R.T.H Crete

1991-2005: Senior Researcher and Teaching Assistant in the Laboratory of Bacteriology, Parasitology, Zoonoses and Geographical Medicine. School of Medicine, University of Crete.

2005- : Assistant Professor of Bacteriology and Molecular Microbiology at the School of Medicine, University of Crete.

Teaching:

A. At at the School of Medicine, University of Crete (25 h during 4th semester and 12 h during 5th semester).

Subjects:

1. General Bacteriology: (bacterial morphology, bacterial genetics, molecular structure and function of Secretion Systems, the role in pathogenesis of quorum sensing and quorum quenching, identification and molecular typing of microbes).

2. Antibiotics: The different group of antibiotics and their molecular targets.
The origine of antibiotic resistance.
Mechanismes of antibiotic resistance.
Laboratory test for susceptibility and resistance of microorganismes.
New targets for the development of antimicrobial chemotherapy.

3. Systematic Bacteriology: Study of bacteriology, pathogenicity, virulence factors, infections, immun response of the host, diagnosis and therapy, for various pathogens :

B. At at the School of Medicine, University of Crete (30h during 8th semester).

Specialized lessons on Microbiology :

1. New laboratory methods for diagnosis in Microbiology
2. The variability of virulence of bacterial pathogens. The case of EHEC
3. The new molecular methods in diagnosis of atypical pneumonia
4. Evaluation of blood negative bacterial cultures
5. Nosocomial resistant pathogens: Gathering of data from the antibiogram and evaluation of resistance dissemination in the hospital
6. Food born pathogens
7. Water born pathogens

Current research activities:

- Genomic identification of secretion systems in bacteria
- Molecular detection, identification and genotyping of bacteria and parasites.
- Study of the pathogenic potential of *Listeria monocytogenes* isolates.
- Oxidative stress and apoptosis in microbes and hosts.
- Study of the anti-microbial activity of new drugs: *in vitro* and *in vivo* experimental models.

Publications

45. Panagiotis F. Sarris, Emmanuel D. Ladoukakis, Nickolas J. Panopoulos and Effie V. **Scoulica**. A phage tail-derived element with wide distribution among both prokaryotic domains. A comparative genomic and phylogenetic study. Accepted for publication in *Genome Biology and Evolution* 2014.
44. Maraki S, Bantouna V, Lianoudakis E, Stavrakakis I, **Scoulica E**. Roseomonas Spinal Epidural Abscess Complicating Instrumented Posterior Lumbar Interbody Fusion. *J Clin Microbiol.* (2013). 51 (7), pp2458-2460.
43. Lopes, R.M., Corvo, M.L., Eleutério, C.V., Carvalheiro, M.C., **Scoulica, E.**, Cruz, M.E.M. Formulation of oryzalin (ORZ) liposomes: In vitro studies and in vivo fate (2012) *European Journal of Pharmaceutics and Biopharmaceutics*, 82 (2), pp. 281-290.
42. Kofteridis, D.P., Valachis, A., **Scoulica, E.**, Christidou, A., Maraki, S., Samonis, G. Hickman catheter-related bacteremia caused by *Gordonia sputi* in a patient with breast cancer (2012) *Journal of Infection in Developing Countries*, 6 (2), pp. 188-191.
41. Sarris, P.F., **Scoulica, E.V.**, *Pseudomonas entomophila* and *Pseudomonas mendocina*: Potential models for studying the bacterial type VI secretion system. *Infect. Genet. Evol.* (2011), *Parasites and Vectors*, 3 (1), art. no. 107.
40. Chatzakis, E., **Scoulica, E.**, Papageorgiou, N., Maraki, S., Samonis, G., Galanakis, E. Infant colonization by *Staphylococcus aureus*: role of maternal carriage (2011) *European Journal of Clinical Microbiology and Infectious Diseases*, pp. 1-7.
39. Sarris, P. F., Zoumadakis, C., Panopoulos, N. J., & **Scoulica, E. V.** Distribution of the putative type VI secretion system core genes in *Klebsiella* spp. *Infect Genet Evol.* 2011 *Jan;11(1):157-66.*
38. Smirlis, D., Duszenko, M., Jimenez Ruiz, A., **Scoulica, E.**, Bastien, P., Fasel, N., et al. (2010). Targeting essential pathways in trypanosomatids gives insights into protozoan mechanisms of cell death. *Parasites & Vectors*, , 107.
37. Karagiannis, I., Sideroglou, T., Gkolfinopoulou, K., Tsouri, A., Lampousaki, D., Velonakis, E. N., et al. (2010). A waterborne campylobacter jejuni outbreak on a greek island. *Epidemiology and Infection*, 138(12), 1726-1734.

36. Papanastasiou, I., Prousis, K. C., Georgikopoulou, K., Pavlidis, T., **Scoulica, E.**, Kolocouris, N., et al. (2010). Design and synthesis of new adamantyl-substituted antileishmanial ether phospholipids. *Bioorganic and Medicinal Chemistry Letters*, 20(18), 5484-5487.
35. Esteves, M. A., Fragiadaki, I., Lopes, R., **Scoulica, E.**, & Cruz, M. E. M. (2010). Synthesis and biological evaluation of trifluralin analogues as antileishmanial agents. *Bioorganic and Medicinal Chemistry*, 18(1),
34. Maraki, S., **Scoulica, E.**, Manoura, A., Papageorgiou, N., Giannakopoulou, C., & Galanakis, E. (2009). A chryseobacterium meningosepticum colonization outbreak in a neonatal intensive care unit. *European Journal of Clinical Microbiology and Infectious Diseases*, 28(12), 1415-1419.
33. Maraki, S., **Scoulica, E.**, Nioti, E., & Tselentis, Y. (2009). Nocardial infection in crete, greece: Review of fifteen cases from 2003 to 2007. *Scandinavian Journal of Infectious Diseases*, 41(2), 122-127.
32. Calogeropoulou, T., Angelou, P., Detsi, A., Fragiadaki, I., & **Scoulica, E.** (2008). Design and synthesis of potent antileishmanial cycloalkylidene-substituted ether phospholipid derivatives. *Journal of Medicinal Chemistry*, 51(4), 897-908.
31. Kofteridis, D. P., Maraki, S., **Scoulica, E.**, Tsioutis, C., Maltezakis, G., & Gikas, A. (2007). Streptomyces pneumonia in an immunocompetent patient: A case report and literature review. *Diagnostic Microbiology and Infectious Disease*, 59(4), 459-462.
30. Gikas, A., Kritsotakis, E. I., Maraki, S., Roubelaki, M., Babalis, D., **Scoulica, E.**, et al. (2007). A nosocomial, foodborne outbreak of salmonella enterica serovar enteritidis in a university hospital in greece: The importance of establishing HACCP systems in hospital catering. *Journal of Hospital Infection*, 66(2), 194-196.
29. Kapou, A., Benetis, N. P., Avlonitis, N., Calogeropoulou, T., Koufaki, M., **Scoulica, E.**, et al. (2007). 3D-quantitative structure-activity relationships of synthetic antileishmanial ring-substituted ether phospholipids. *Bioorganic and Medicinal Chemistry*, 15(3), 1252-1265.
28. N. Papageorgiou, **E. Scoulica**, C. Panoulis, S. Maraki, A. Christidou, Y. Tselentis, P1858 Molecular typing and pathogenic potential of Listeria monocytogenes isolates from food and clinical origin, International Journal of Antimicrobial Agents, Volume 29, Supplement 2, March 2007, Page S532,
27. Giske, C. G., Libisch, B., Colinon, C., **Scoulica, E.**, Pagani, L., Füzi, M., et al. (2006). Establishing clonal relationships between VIM-1-like metallo- β - lactamase-producing pseudomonas aeruginosa strains from four european countries by multilocus sequence typing. *Journal of Clinical Microbiology*, 44(12), 4309-4315.
26. Maraki, S., Panagiotaki, E., Tsopanidis, D., **Scoulica, E.**, Miari, N. -, Hainis, K., et al. (2006). Nocardia cyriacigeorgica pleural empyema in an immunocompromised patient. *Diagnostic Microbiology and Infectious Disease*, 56(3), 333-335.

25. Gikas, A., Christidou, A., **Scoulica, E.**, Nikolaidis, P., Skoutelis, A., Levidiotou, S., et al. (2005). Epidemiology and molecular analysis of intestinal colonization by vancomycin-resistant enterococci in greek hospitals. *Journal of Clinical Microbiology*, 43(11), 5796-5799.
24. Papazafiri, P., Avlonitis, N., Angelou, P., Calogeropoulou, T., Koufaki, M., **Scoulica, E.**, et al. (2005). Structure-activity relationships of antineoplastic ring-substituted ether phospholipid derivatives. *Cancer Chemotherapy and Pharmacology*, 56(3), 261-270.
23. Psaroulaki, A., Germanakis, A., Gikas, A., **Scoulica, E.**, & Tselentis, Y. (2005). Simultaneous detection of "rickettsia mongolotimonae" in a patient and in a tick in greece. *Journal of Clinical Microbiology*, 43(7), 3558-3559 .
22. Psaroulaki, A., Germanakis, A., Gikas, A., **Scoulica, E.**, & Tselentis, Y. (2005). First isolation and genotypic identification of rickettsia conorii malish 7 from a patient in greece. *European Journal of Clinical Microbiology and Infectious Diseases*, 24(4), 297-298.
21. Christidou, A., Gikas, A., **Scoulica, E.**, PEDIADITIS, J., Roubelaki, M., Georgiladakis, A., et al. (2004). Emergence of vancomycin-resistant enterococci in a tertiary hospital in crete, greece: A cluster of cases and prevalence study on intestinal colonisation. *Clinical Microbiology and Infection*, 10(11), 999-1005. IF:4,578.
20. Christidou, A., Maraki, S., **Scoulica, E.**, Mantadakis, E., Agelaki, S., & Samonis, G. (2004). Fatal nocardia farcinica bacteremia in a patient with lung cancer. *Diagnostic Microbiology and Infectious Disease*, 50(2), 135-139.
19. **Scoulica, E. V.**, Neonakis, I. K., Gikas, A. I., & Tselentis, Y. J. (2004). Spread of blaVIM-1-producing E. coli in a university hospital in greece. genetic analysis of the integron carrying the blaVIM-1 metallo- β -lactamase gene. *Diagnostic Microbiology and Infectious Disease*, 48(3), 167-172.
18. Neonakis, I., Gikas, A., **Scoulica, E.**, Manios, A., Georgiladakis, A., & Tselentis, Y. (2003). Evolution of aminoglycoside resistance phenotypes of four gram-negative bacteria: An 8-year survey in a university hospital in greece. *International Journal of Antimicrobial Agents*, 22(5), 526-531.
17. Sakellaris, G., Kampitakis, E., Karamitopoulou, E., **Scoulica, E.**, Psaroulaki, A., Mihailidou, E., et al. (2003). Cat scratch disease simulating a malignant process of the chest wall with coexistent osteomyelitis. *Scandinavian Journal of Infectious Diseases*, 35(6-7), 433-435.
16. Maraki, S., **Scoulica, E.**, Alpantaki, K., Dialynas, M., & Tselentis, Y. (2003). Lymphocutaneous nocardiosis due to nocardia brasiliensis. *Diagnostic Microbiology and Infectious Disease*, 47(1), 341-344.
15. Neonakis, I. K., **Scoulica, E. V.**, Dimitriou, S. K., Gikas, A. I., & Tselentis, Y. J. (2003). Molecular epidemiology of extended-spectrum β -lactamases produced by clinical isolates in a university hospital in greece: Detection of SHV-5 in pseudomonas aeruginosa and prevalence of SHV-12. *Microbial Drug Resistance*, 9(2), 161-165. IF:2,36 (Q2/Q3).

14. Avlonitis, N., Lekka, E., Detsi, A., Koufaki, M., Calogeropoulou, T., **Scoulica, E.**, et al. (2003). Antileishmanial ring-substituted ether phospholipids. *Journal of Medicinal Chemistry*, 46(5), 755-767.
13. Bitsori, M., Galanakis, E., Gikas, A., **Scoulica, E.**, & Sbyrakis, S. (2002). Rickettsia typhi infection in childhood. *Acta Paediatrica, International Journal of Paediatrics*, 91(1), 59-61.
12. Gikas, A., Spyridaki, I., **Scoulica, E.**, Psaroulaki, A., & Tselentis, Y. (2001). In vitro susceptibility of coxiella burnetii to linezolid in comparison with its susceptibilities to quinolones, doxycycline, and clarithromycin. *Antimicrobial Agents and Chemotherapy*, 45(11), 3276-3278.
11. Stratidaki, I., **Skoulika, E.**, Kelefiotis, D., Matrella, E., Alexandrakis, G., Economou, A., et al. (2001). NS5A mutations predict biochemical but not virological response to interferon- α treatment of sporadic hepatitis C virus infection in european patients. *Journal of Viral Hepatitis*, 8(4), 243-248.
10. Aransay, A. M., **Scoulica, E.**, & Tselentis, Y. (2000). Detection and identification of leishmania DNA within naturally infected sand flies by seminested PCR on minicircle kinetoplastic DNA. *Applied and Environmental Microbiology*, 66(5), 1933-1938.
9. Aransay, A. M., **Scoulica, E.**, Tselentis, Y., & Ready, P. D. (2000). Phylogenetic relationships of phlebotomine sandflies inferred from small subunit nuclear ribosomal DNA. *Insect Molecular Biology*, 9(2), 157-168.
8. Spyridaki, I., Psaroulaki, A., Aransay, A., **Scoulica, E.**, & Tselentis, Y. (2000). Diagnosis of quinolone-resistant coxiella burnetii strains by PCR-RFLP. *Journal of Clinical Laboratory Analysis*, 14(2), 59-63.
7. Chaniotis, B., Spyridaki, I., **Scoulika, E.**, & Antoniou, M. (2000). Colonization of phlebotomus neglectus (diptera: Psychodidae), the major vector of visceral leishmaniasis in greece. *Journal of Medical Entomology*, 37(3), 346-348.
6. Aransay, A. M., **Scoulica, E.**, Chaniotis, B., & Tselentis, Y. (1999). Typing of sandflies from greece and cyprus by DNA polymorphism of 18S rRNA gene. *Insect Molecular Biology*, 8(2), 179-184.
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4. **Scoulica, E.**, & Tsdentis, Y. (1996). Role of the IS431 in the induction of methicillin resistance in S. aureus. the IS431 is active. *Medical Microbiology Letters*, 5(SUPPL. 1)
3. **Scoulica, E.**, Aransay, A., & Tselentis, Y. (1995). Molecular characterization of the OXA-7 β -lactamase gene. *Antimicrobial Agents and Chemotherapy*, 39(6), 1379-1382.

2. Samonis, G., Elting, L., **Skoulika, E.**, Maraki, S., & Tselentis, Y. (1994). An outbreak of diarrhoeal disease attributed to shigella sonnei. *Epidemiology and Infection*, 112(2), 235-245 .
1. **Scoulica, E.**, Krause, E., Meese, K., & Dobberstein, B. (1987). Disassembly and domain structure of the proteins in the signal-recognition particle. *European Journal of Biochemistry*, 163(3), 519-528.